N.A.C.A. BULLETIN

In Two Sections

Section One

AN EMBRYO STANDARD COST SYSTEM FOR SMALL MANUFACTURING COMPANIES

by SEATTLE CHAPTER COMMITTEE TO PROMOTE COST ACCOUNTING 179

ORGANIZING THE BUSINESS REPORT

by W. W. NEIKIRK 193

SPEEDING UP MONTHLY CLOSINGS AND REPORTS TO MANAGEMENT—IT CAN BE DONE

by RAYMOND R. WESLEY 205

VOL. XXX, NO. 4 OCTOBER 15, 1948

EDITORIAL DEPARTMENT NOTE

To some extent, there must always be preparation for standard costs. There must be at least some requisitioning of managerial attention and enlargement of the *scope* of accounting if there are to be reliable standards for cost elements, products, and operations. For this reason, it may sometimes be hard to present convincingly the case for use of standard costs, or any cost method in the small, especially the very small, enterprise. Such a presentation is, nevertheless, accomplished in our first article which offers a somewhat ingenious method for introduction of real, if minimum, benefits from initial standards developed after scrutiny of actual costs over a test period and from judgment as to future conditions.

Authorship of the paper rests with the Committee to Promate Cost Accounting for small business, which was formed by the Seattle Chapter. Before preparation of the paper the Committee conducted a survey of the need for a simple cost system, as felt by manufacturers in the Seattle area. The members of the Committee included: Edwards R. Fish, Jr., Chairman, who is a Member of the firm of Ward, Fish & DeForest, Management Engineers, Seattle; Milton L. Grout, Chief Accountant, San Juan Fishing & Packing Co., Seattle; and Harold B. Wittenberg, Assistant Vice President and Auditor, National Bank of Commerce, Seattle. Acknowledgment is also made of the continuous and extensive assistance rendered the Committee by Donald E. Hilliard, Partner, Barrios, Hilliard, Sain & Co., Certified Public Accountants, Seattle.

•

The transition from the assembling of quantity data to the arrangement of ideas is a sharp one for many otherwise well qualified industrial accountants called upon, under today's standards of performance, to convey to management the meaning of cost and financial situations through periodical and special reports. The second article in this issue of the *Bulletin* attacks the problem on a practical basis and suggests outlining and briefing techniques which, while unsuited to impulsive temperaments, may enable accountants to add force and clarity to their written presentations.

This delineation of the requirements of proper organization of business reports is the work of W. W. NEIKIRK, Assistant Treasurer, Dewey & Almy Chemical Co., Cambridge, Mass. For several years after receiving his degree from Harvard Graduate School of Business Administration, Mr. Neikirk was associated with First Boston Corp. as Investment Analyst and later was Chief Accountant with H. H. Robertson Co., Pittsburgh.

•

When management has once become interested in the information which emanates from the accounting department, delay in issuance of monthly statements—previously a source of mere annoyance—becomes a source of real frustration to operating executives. This interest in the results of much arduous underlying work is very welcome to the cost accountant, but it introduces continually stepped-up pressures for prompt and adequate reports. Our final article narrates the steps taken by one company to gear all departments involved and all closing processes to timely reports.

The evolution of the methods changes necessary in the circumstances is presented by RAYMOND R. WESLEY, Chief Accountant, Ciba Pharmaceutical Products, Inc., Summit, N. J. Mr. Wesley joined Ciba five years ago as Internal Auditor, after twelve years as traveling and, later, resident Auditor with National Carloading, Inc.

This *Bulletin* is published semimonthly by the National Association of Cost Accountants, 385 Madison Ave., New York 17, N. Y. Subscription price, $10 per year. Entered at the Post Office, New York, N. Y., as second-class matter August 28, 1925, under the Act of March 3, 1879.

COPYRIGHTED BY THE
NATIONAL ASSOCIATION OF
COST ACCOUNTANTS
OCTOBER 15, 1948

AN EMBRYO STANDARD COST SYSTEM FOR SMALL MANUFACTURING COMPANIES

by SEATTLE CHAPTER COMMITTEE TO PROMOTE COST ACCOUNTING

HOW necessary is a cost system for small concerns? How simple can a cost system be and yet do the work required of it? How can the accountant and one man management, to take the segment of industry which may be least served by cost accounting, derive and maintain the cost data for current control and future planning which the general ledger accounts by themselves are inadequate to provide? Before attempting a constructive answer to these questions, we may perhaps dispose of a likely pitfall. This pitfall is encountered at the end of the leap to the conclusion that preparation of actual product costs month by month is the first step. There is no surer way to multiply accounting detail for a small or nominal staff than to make such repeated allocations of actual costs (although the time may come when it is helpful to do so in whole or in part)—and no surer way to bury in fluctuating units and averages the very factors in actual results which should be separated and labeled as departures or failures to achieve the most economical and effective operation.

This article is therefore devoted to outlining an embryo standard cost system for the small and very small manufacturing operation which will, in most cases, add little if anything to the bookkeeping presently carried on and will provide with a minimum of work on the part of the owner or manager and his accountant the planned normal or standard costs through which, month by month, deviations from the desired course—variances—can be determined and controlled, and the minimum, substantial benefits of a standard cost system, obtained. The initial standards will not be time studied standards and will lean, in a measure, heavily on cost experience over a test period, but—as indicated later—they are intended to be true standards in the sense of reflecting intelligently prejudged costs. The many points at which the system presented can be expanded at need will become obvious as we proceed with the description of it. None the less, the benefits may be realized even without incorporating the standards in the accounts and many companies may wish to start in this manner.

Limited Information Required

So far as the books of account are concerned, all that is entirely necessary is (1) that they be kept on an accrual basis so that monthly cost data will not be affected by any abnormalities in timing of disbursements and will spread period costs to applicable months and (2) that material, labor, and manufacturing expenses be segregated in the general ledger profit and loss accounts (with manufacturing expenses reasonably well broken down by types of expense and by departments). As to supporting data, it is necessary only that accurate records of quantities produced be kept for end products and components and that these quantities be checked and reconciled by use of sales records and reliable monthly physical inventories, although careful perpetual inventory records with periodical supplementary counts might also serve. Direct labor hours from the payroll must be available.

The remainder of this paper will consist of an application of the system proposed. In advance of this, it might be well to comment on the situation as to variance analysis which will naturally develop on the basis of the facts already given. Since there are to be no actual unit costs for products or operations but only monthly totals of material, labor, and classified overhead costs, it is plain that primary comparison of each month's actual production costs with standard costs for the same production—i.e., variance determination—must be limited to these broad categories until the system is expanded. However, the present system supposes that variances disclosed in these categories may be subjected to secondary analysis and that the signal afforded that such analysis is desirable comprises one of the principal benefits.

The Acme Company

The Acme Company selected the first half of the calendar year 1948 as the period over which to maintain properly classified accounts and to accumulate the broad basic data previously outlined, to which (in the large) to anchor its preparation of standard unit costs. Also, as previously indicated, there was no attempt to take total actual cost for the period and to attribute portions to products or operations or to develop any type of cost unit as a direct reflection of operating results for the test period. These simply provided broad aggregates against which to test the common sense accuracy of unit standards arrived at and to paint the broad pic-

ture of normal production over six month's time. Detail cost data of the test period was, however, used as the experience background.

The cost and production data for the test period is given in Exhibit 1, from which it may also be noted that the Acme Company makes three end products out of six components and that eleven items of material are required. The direct labor hours shown and the relationship of overhead expenses to direct labor is also revealing, especially as it differs between the two departments, in one of which the components are completed and, in the other, the end products assembled.

Establishing the Standard Costs

Apart from the absence of time studies, at least for the present, the setting of standards by the Acme Company differed in no essential way from the setting of standards in larger companies

MANUFACTURING COSTS, PRODUCTION, AND CONSUMPTION
(1/1/48 to 6/30/48)

	Dept. I	*Dept. II*	*Total*
Material consumed	$106,450	$17,600	$124,050
Direct labor incurred—amount	$115,600	$19,900	$135,500
hours	77,100	9,950	87,050
Manufacturing expenses			
Power	$ 12,000	$ 100	$ 12,100
Depreciation	14,000	600	14,600
Indirect material	20,000	100	20,100
Indirect labor	14,000	100	14,100
Taxes	20,000	300	20,300
Other	36,000	800	36,800
Total	$116,000	$ 2,000	$118,000

Production		*Consumption*	
Components completed		Material consumed	
Comp L—	1,200	Mat # 1—	16,000
Comp M—	800	Mat # 2—	1,200
Comp N—	400	Mat # 3—	4,000
Comp O—	200	Mat # 4—	8,000
Comp P—	200	Mat # 5—	8,000
Comp Q—	200	Mat # 6—	8,000
		Mat # 7—	4,000
End product completed		Mat # 8—	5,000
EP A—	500	Mat # 9—	2,000
EP B—	200	Mat # 10—	13,000
EP C—	200	Mat # 11—	4,400

EXHIBIT 1

ANALYSIS OF CONTENT OF COMPONENTS AND END PRODUCT (6/30/48)

Component L		Component Q	
Material # 1	10 each	Material # 5	10 each
Material # 2	1 each	Material # 6	10 each
Material # 5	5 each	Component L	1 each
Material # 10	10 each		
Component M		End Product A	
Material # 1	5 each	Material # 11	4 each
Material # 3	5 each	Component L	2 each
Material # 4	10 each		
Component N		End Product B	
Material # 6	10 each	Material # 11	6 each
Material # 7	10 each	Component # M	2 each
Material # 8	10 each	Component # N	2 each
Component O		Component # O	1 each
Material # 6	10 each	End Product C	
Material # 9	10 each	Material # 11	6 each
Component P		Component # M	2 each
Material # 8	5 each	Component # P	1 each
Material # 10	5 each	Component # Q	1 each

EXHIBIT 2

except that there were fewer operating heads and staff specialists to take counsel with, and perhaps fewer were needed. At all events, there was nothing in the over-all general ledger cost accounts which would be helpful in the process except by way of providing an historical cost aggregate for production at the general volume level at which it had been carried on during the previous six months and possibly the ratio of burden to direct costs. Such an aggregate could be made to serve to disclose wholly erroneous estimates, if developed as standards, and such a general tie-in was, in fact, effected as will be indicated later.

However, the process of setting unit standards was the methodical one of relating materials to components and both to end products and of determining units of material and hours of labor needed in each case, followed by application of appropriate prices to materials and rates to labor hours. Manufacturing expenses were budgeted at the current production level and a standard absorption rate set for each department. Recent actual material purchase costs and labor hiring rates, as they appeared on invoices and payrolls of the test period, were used largely in working out the standard costs, but more because they were *recent* than because they were *actual* cost data. Had purchase prices, labor rates, production volume, technical processes, or formulas been likely to change in the period ahead (the standards are intended

to be relatively permanent except for changes from these causes), the standard costs developed would have been altered to conform.

For simplicity, figures used in illustrations presented with this paper treat costs and production conditions obtaining during the test period as representative of both current and expected conditions. However, that this was in fact the case was a matter for a careful scrutiny in setting the standards.

Assignment of Unit Costs

The initial step of the process was to set forth clearly what material and what components went into each product. Accordingly this was specifically scheduled as shown in Exhibit 2. From this the detail of process operations could easily be set down also. With the information so laid out it was possible to study present (and consider future) costs and to make detailed assignments of the standard cost by elements. A scrutiny of the data summarized on Exhibit 3 will show the results of the work to develop unit standards. Each material was assigned a unit cost. Each component or product was assigned the number of labor hours to complete under standard conditions and also a standard hourly labor rate, resulting in unit labor cost. Each principal item of overhead was budgeted by departments. The departmental burden ratios to direct labor dollars of 100 per cent for Department 1 and 10 per cent for Department 2 were found to be sound and likewise assigned as standard. From Exhibits 1 and 2,—with the above data—the standard unit cost of each of the company's products and components was readily determinable and standard cost cards were set up for each.

Before doing this, it was decided at least to test that the "free-hand judgment" which might have been applied in connection with the work so far had not carried the unit figures out of range of experience. This test was accomplished as shown in Exhibit 4 which applies the standard data from Exhibit 3 to monthly quantities (one sixth of the quantities on Exhibit 1) and obtains cost figures which do jibe with experience. Perhaps they agree too closely on the pattern of sample figures to which, for the sake of clarity, we are limited. For it is possible to use the setup shown in Exhibit 4 as a forward plan or operating budget, in which case the quantities shown would be the quantities expected to be produced in succeeding months. As used in this illustration, Exhibit 4 is simply a memo tie-in between past and future. When it was

UNDERLYING STANDARD COSTS ESTABLISHED AS OF JUNE 30, 1948

Unit Standards for Direct Costs

Material Standards		Direct Labor Standards			
		Component or product	*Hours to complete*	*Rate*	*Unit cost*
Material # 1	$1.00 each	L	20⅔	$1.50	$31.00
Material # 2	3.00 each	M	14⅔	1.50	22.00
Material # 3	.10 each	N	69⅓	1.50	104.00
Material # 4	.10 each	O	54	1.50	81.00
Material # 5	1.00 each	P	3⅓	1.50	5.00
Material # 6	5.00 each	Q	6⅔	1.50	10.00
Material # 7	4.00 each	A	7½	2.00	15.00
Material # 8	3.00 each	B	10	2.00	20.00
Material # 9	.05 each	C	21	2.00	42.00
Material # 10	.05 each				
Material # 11	4.00 each				

Monthly Standard Overhead

	Dept. I	*Dept. II*	*Total*
Power	$ 2,000	$ 17	$ 2,017
Depreciation	2,333	100	2,433
Indirect material	3,333	17	3,350
Indirect labor	2,333	17	2,350
Taxes	3,333	50	3,383
Other	5,875	136	6,011
Total	$19,207	$337	$19,544
Burden rate	100%	10%	

EXHIBIT 3

completed and attested to the common sense accuracy of standards as worked, the standard cost cards were prepared.

These cards are of extreme importance. In the ordinary instance, they will be frequently handled over a period of time in operating the system and therefore, in the Acme Company, they were printed on heavy white stock. As noted before, revisions are to be made for only certain reasons. The data for the cards was picked up easily by use of information on Exhibits 2 and 3, as was the case in preparing Exhibit 4. Cards for one component and one end product of the Acme Company are given in Exhibit 5. It should be remembered that the arrangement of data shown will vary for the needs of each company.

Operating the System

The six months test period—January to June 1948—had come and gone, and the manager and the accountant had given the best they could, without other technical help, to devising serviceable standard costs. It now remained to place the system in operation. In the end it would almost certainly be simpler to incorporate the standards in the books of account—and many would say that it would be simpler to do so from the start—but this course is frequently likely to give the impres-

ESTIMATED MONTHLY PRODUCTION AND COST SUMMARY (6/30/48)

Department I	*Labor hours*	*Units*	*Material*	*Labor*	*Overhead*	*Total*
Component L...	4,133	200	$ 3,700	$ 6,200	$ 6,200	$16,100
M...	1,980	135	878	2,970	2,970	6,818
N...	4,576	66	7,920	6,864	6,864	21,648
O...	1,782	33	2,640	2,673	2,673	7,986
P...	110	34	519	170	170	859
Q...	220	33	1,980	330	330	2,640
Total Dept. I...	12,801		$17,637	$19,207	$19,207	$56,051
Department II						
End product A..	630	84	$ 1,344	$ 1,260	$ 126	$ 2,730
B..	340	34	816	680	68	1,564
C..	714	34	816	1,428	143	2,387
Total Dept. II.	1,687		$ 2,976	$ 3,368	$ 337	$ 6,681
Grand total.....	14,485		$20,545	$22,575	$19,544	$62,664

EXHIBIT 4

sion of being less simple than to let the books run along as they have been set up and to apply standard costs each month like a ruler taken from the top drawer and put back after the measurement has been completed. The Acme Company began in this way.

Exhibit 6 shows the operating statement drawn from the books for July 1948, the first month for which the measuring stick was to be used, and shows likewise the controlled production statistics maintained—as previously indicated—so that the measuring stick might be properly applied. In other words the "finished" column represents quantity of production for the month for the department (no incomplete components or end products on hand at start or close) proven through reconciliation with inventories and sales, and is ready for extension by standard unit costs to arrive at material, labor, and overhead totals for direct comparison with actual manufacturing costs incurred.

Dealing with the Variances

This comparison is afforded by Exhibit 7 which shows amount and rate of variance for the month for each of the three elements of cost compared. It will be noted that the net variance in the final column is nominal for each department and for the company as a whole. However, this is the result of an offset between unfavorable variances for labor and material on one hand and apparent savings in burden on the other. The plus 4 per cent and

COST CARD DATA FOR COMPONENT N AND END PRODUCT C

COMPONENT N

Date of Standards 7/1/48 No. *Comp. N*

Description .....

Assembly this Unit *Material*			*Material*	*Labor*	*Overhead*
Number	*Quantity*	*Standard Cost*			
#6	10	$5.00	$ 50.00		
#7	10	4.00	40.00		
#8	10	3.00	30.00		
Total material and direct labor added this unit			120.00	104.00	104.00
Component Charges					
Number	*Quantity*	*Standard Cost*			
Totals			$120.00	$104.00	$104.00
Total standard cost					$328.00

END PRODUCT C

Date of Standards 7/1/48 No. *EP-C*

Description .....

Assembly this Unit *Material*			*Material*	*Labor*	*Overhead*
Number	*Quantity*	*Standard Cost*			
#11	6	$4.00	$ 24.00	$ 42.00	$ 4.20
Total material and direct labor added this unit			24.00	42.00	4.20
Component Charges					
Number	*Quantity*	*Standard Cost*			
Comp. M	2	$ 50.50	13.00	44.00	44.00
Comp. N	1	25.25	15.25	5.00	5.00
Comp. Q	1	160.50	78.50	41.00	41.00
			106.75	90.00	90.00
Totals			$130.75	$132.00	$ 94.20
Total standard cost					$356.95

EXHIBIT 5

MANUFACTURING COST PER BOOKS AND PRODUCTION RECORDS SUMMARY
JULY, 1948

Actual Manufacturing Costs Incurred

	Dept. I	*Dept. II*	*Total*
Material consumed	$22,300.00	$3,100.00	$25,400.00
Direct labor incurred	23,000.00	2,900.00	25,900.00
Manufacturing expense			
Power	2,000.00	17.00	2,017.00
Depreciation	2,333.00	100.00	2,433.00
Indirect material	3,300.00	40.00	3,340.00
Indirect labor	2,500.00	30.00	2,530.00
Taxes	3,400.00	54.00	3,454.00
Other	6,000.00	110.00	6,110.00
Total manufacturing expense	$19,533.00	$ 351.00	$19,884.00
Total cost of manufacturing	$64,833.00	$6,351.00	$71,184.00

Summary of Production Records

	Beginning inventory	*Finished*	*Ending inventory*	*Sold*
Component L	10	225	10	
M	10	110	10	
N	30	80	50	
O	10	50	30	
P	5	30	10	
Q	5	25	5	
End Product A	3	100	12	91
B	4	30	4	30
C	1	25	1	25

EXHIBIT 6

plus 8 per cent variances for labor might bear some looking into and the plus 9 per cent and plus 6 per cent material variances surely do. These call for secondary analysis, i.e., "digging," as set forth earlier in the article. Because actual costs are not—at least so far—broken down in any way, the secondary analysis is in a measure difficult but not impossible. It involves inspection of material prices, spoilage factors, and a perusal of payroll rates and hours. At such time as the cost system is expanded so that actual costs are further broken down on the books, the secondary analysis becomes a matter of mechanics.

The direct comparison of actual overhead and standard overhead as developed from unit standard costs of the month's production is less informative than the other direct comparisons. Slightly stepped up production will show apparent savings by inflating, overhead allowed (they *are* true volume economies). Such

COMPARISON OF STANDARD AND ACTUAL COST OF MANUFACTURING
JULY, 1948

	Units produced		Standard unit costs			Standard total costs (actual production)			
	Standard	Actual	Material	Labor	Overhead	Material	Labor	Overhead	Total
Department I									
Component L ...	200	225	$ 18.50	$ 31.00	$ 31.00	$ 4,162.50	$ 6,975.00	$ 6,975.00	$18,112.50
Component M ..	135	110	6.50	22.00	22.00	715.00	2,420.00	2,420.00	5,555.00
Component N ...	66	80	120.00	104.00	104.00	9,600.00	8,320.00	8,320.00	26,240.00
Component O ...	33	50	80.00	81.00	81.00	4,000.00	4,050.00	4,050.00	12,100.00
Component P ...	34	30	15.25	5.00	5.00	457.50	150.00	150.00	757.50
Component Q ...	33	25	60.00	10.00	10.00	1,500.00	250.00	250.00	2,000.00
Totals Department I at standard						$20,435.00	$22,165.00	$22,165.00	$64,765.00
Totals at actual						$22,300.00	$23,000.00	$19,533.00	$64,833.00
Variance						+$ 1,865.00	+$ 835.00	−$ 2,632.00	+$ 68.00
Per cent of variance						+9%	+4%	−12%	.....
Department II									
End Product A.	84	100	16.00	15.00	1.50	$ 1,600.00	$ 1,500.00	$ 150.00	$ 3,250.00
End Product B.	34	30	24.00	20.00	2.00	720.00	600.00	60.00	1,380.00
End Product C.	34	25	24.00	42.00	4.20	600.00	1,050.00	105.00	1,755.00
Totals Department II at standard						$ 2,900.00	$ 3,150.00	$ 315.00	$ 6,385.00
Totals at actual						$ 3,100.00	$ 2,900.00	$ 315.00	$ 6,351.00
Variance						+$ 180.00	−$ 250.00	+$ 36.00	−$ 34.00
Per cent of variance						+6%	+8%	−11%	−1%
Totals									
Totals at standard						$23,355.00	$25,315.00	$22,480.00	$71,150.00
Totals at actual						$25,400.00	$25,900.00	$19,884.00	$71,184.00
Variance						+$ 2,045.00	+$ 585.00	−$ 2,596.00	+$ 34.00
Per cent of variance						+9%	+2%	−11%	.....

stepped up production occurred in July and is disclosed by comparison between the memo column "standard units of production," taken from Exhibit 4, and actual production. (If this memo column were carried into actual use, it would permit of developing volume variances for all elements of cost). With respect to overhead therefore—classified and departmentalized on the books—a comparison with estimated monthly expenditures by items set as standard and shown in Exhibit 3 gives a clearer picture. This comparison is made in Exhibit 8. However, this is not to say that the overhead variance shown on Exhibit 7 is wholly invalid, simply that it is affected by the volume factor not completely cared for in our simplified system. Nevertheless, the notice afforded of this situation is in itself helpful.

Inventories and Cost of Sales

Not the least important benefit of standard costs is the readiness with which they may be applied to valuation of inventories, even permitting prompt over-all conversion to approximate actual costs through application of variance rates if inventories at actual cost are desired. We will assume, in the case of the Acme Company, that the relief afforded by the presence of standards for inventory valuation was a very welcome one and that standards

COMPARISON OF ACTUAL AND ESTIMATED OVERHEAD
JULY, 1948

	Actual	*Predetermined*	*Over+ or Under—*
Department I			
Power	$ 2,000.00	$ 2,000.00	$.....
Depreciation	2,333.00	2,333.00	.....
Indirect material	3,300.00	3,333.00	— 33.00
Indirect labor	2,500.00	2,333.00	+ 167.00
Taxes	3,400.00	3,333.00	+ 67.00
Other	6,000.00	5,875.00	+ 125.00
	$19,533.00	$19,207.00	+$326.00
Department II			
Power	$ 17.00	$ 17.00	$.....
Depreciation	100.00	100.00	.....
Indirect material	40.00	17.00	+ 23.00
Indirect labor	30.00	17.00	+ 13.00
Taxes	54.00	50.00	+ 4.00
Other	110.00	136.00	— 26.00
	$ 351.00	$ 337.00	+$ 14.00

EXHIBIT 8

were, in effect, introduced into the books to this relatively minor extent by becoming the basis of inventory valuation at the beginning and end of the month. The company's inventories at the start and close of July are set forth in Exhibit 9.

Such use of standard costs has a further effect than convenience and knowledge that inventory values reflect the same elements of judgment and experience which went into setting the standards. It also means that cost of sales at actual and standard is determined on the same figures except for variance in manufacturing costs for the month as previously developed, i.e., it would be possible to adjust cost of sales at actual to cost of sales at standard by applying variances in any detail desired to the face of the former statement. Without doing precisely that, the Acme Company did, however, prepare a reconciliation of over-all cost of sales at actual to product cost of sales at standard (Exhibit 10).

Putting Standard Costs on the Books

It is very nearly as straightforward a matter to incorporate standard costs in the regular monthly entries as it is to apply them in part by the simple expedient of using them for unit inventory values. This incorporation of standards is accomplished with the least effort if they are made the basis of the entry which

INVENTORIES AT STANDARD COSTS

	Quantities 6/30/48	7/31/48	*Price*	*Amounts* 6/30/48	7/31/48
Components					
L	10	10	$ 80.50	$ 805.00	$ 805.00
M	10	10	50.50	505.00	505.00
N	30	50	328.00	9,840.00	16,400.00
O	10	30	242.00	2,420.00	7,260.00
P	5	10	25.25	126.25	252.50
Q	5	5	160.50	802.50	802.50
Total Component Inventory				$14,498.75	$26,025.00
Finished Goods					
A	3	12	$ 193.50	$ 580.50	$ 2,322.00
B	4	4	1,045.00	4,180.00	4,180.00
C	1	1	356.95	356.95	356.95
				$ 5,117.45	$ 6,858.95

EXHIBIT 9

credits work in process and charges finished goods with the production for the month. When this transfer has been made on this basis and the work in process inventory has been taken at standard costs, the net variance will develop as the remainder of the account, just as it developed "off the record" on comparison of actual manufacturing costs with production costs for the month at standard (Exhibit 7). Broadening of the variance into its elements will still require the statement comparison unless use of standard costs is carried to the point where material, direct labor, and manufacturing burden accounts are credited (when work in process is charged) at standard costs. In this event, the variances will develop separately in these accounts.

So far, when variances have been mentioned, nothing has been said about their disposition and this question arises as soon as standard costs become the basis for book costing entries and inventory valuations. General practice appears to support charging debit variances to profit and loss and splitting credit variances proportionately between that account and inventory in order not to (in effect) write up the latter above actual cost.

RECONCILIATION OF COST OF GOODS SOLD JULY, 1948

Finished goods inventory July 1		$ 5,117.45*
Component inventory July 1	$14,498.75*	
Total cost of manufacturing—July	71,184.00	
	$85,682.75	
Component inventory July 31	26,025.00*	
		59,657.75
Total goods available		$64,775.20
Finished goods inventory July 31		6,858.95*
Total cost of goods sold		$57,916.25
Cost of goods sold (at standard costs)		
End Product A 91 ea.	$ 193.50	$17,608.50
B 30	1,045.00	31,350.00
C 25	356.95	8,923.75
Total cost of sales		$57,882.25
Net variance (see Exhibit 7)		34.00

* Inventory valuation at standard costs.

EXHIBIT 10

Conclusion

Toward the close of this article citing the case of the Acme Company, it may have been discernible that the presentation has been angled, perhaps more than slightly, toward making it clear that no impenetrable mystery and no great intricacy of operation is involved if standard costs—properly devised and maintained—are made part and parcel of the accounting system. Nevertheless, there has been no intention of going back on the practicability of employing them, at least for a while, as a monthly measuring stick only—if this is faithfully and consistently done. The central purpose of this article has been to demonstrate by exposition and simplified example that there is such a thing as a "system"—with no sting in the word—which can be applied to the derivation of meaningful information for the management from the accounts of the smallest concern.

In brief, the system is simple and can be brought down to a very few steps:

1. Proper and consistent classification of costs for a representative period prior to the installation.
2. Setting of standard unit costs on all end products and components thereof.
3. Maintenance of accurate production records for components as well as end products.
4. Comparison of actual costs to standard costs.

COMING ARTICLES

In the *N. A. C. A. Bulletin,* November 1, 1948

Application of Operation Time Standards to Departmental Labor Cost Control
by Franklin G. Jack

A Payroll System Using General Purpose Office Equipment
by E. W. Jackels

Control of Accounts Payable by Punched Card Methods
by R. W. Donaldson

Budgetary Review of Plant Additions in a Public Utility
by Russell G. Houck

ORGANIZING THE BUSINESS REPORT

by W. W. NEIKIRK
Assistant Treasurer, Dewey & Almy Chemical Co.,
Cambridge, Mass.

PERHAPS some of you are familiar with men like Harry Karry. When Harry first came to work for the company, he showed considerable promise and the boss assigned him an important situation to investigate. Harry made a thorough study of the problems and came up with some good ideas. He tried to tell them to the boss but the boss was busy and could not listen to the story because it turned out to be somewhat involved. So he asked Harry to write a report on the situation. Harry sat down at his desk and wrote away with great enthusiasm, but when the boss got the report the situation was still not clear to him and Harry was called in several times to explain his report. Harry had other similar assignments but the boss always had the same trouble—finding out what Harry had turned up and what his conclusions were. As a result, Harry ended up at a routine clerical job.

This reverse Horatio Alger story may seem exaggerated but too many good men are held back because they cannot put their thoughts into understandable report form. The use of reports in business is here to stay. As organizations grow, reports become more and more important in "remote control" decisions by busy executives. Reports become part of a company's archives as a permanent record of decisions taken and descriptive reports provide reference for future decisions. Furthermore, analytical report assignments can be used as training for junior executives. Such assignments give the younger men practice in analysis and the formulation of logical decisions and at the same time afford top management an opportunity to appraise their ability.

The technique of report writing may be divided into two broad operations. One is the arrangement of thoughts presented into a clear organized pattern so that the reader can follow each step in the writer's thinking. The other operation is the "translation" of these thoughts into the grammatical units of words, sentences, and paragraphs, the raw materials of all communication.

Force and Clarity Depend on Organization

This article is primarily concerned with the organizational aspects of report writing.[1] A good vocabulary, accurately used, with good sentence and paragraph structure, cannot present a clear picture to the reader without adequate organization which the reader can follow. It is true that arrangement of some types of reports presents no problem because the form is set and familiar to both the writer and the reader. But the analytical or expository report on special subjects does call for clear organization. Without it the reader ploughs through such reports by bumping from tree to tree without ever seeing the broad divisions of the forest.

To achieve organization in report writing we must always have two objectives. The first is to break down the report material into its component parts and arrange these parts in logical order. For the reader must be fed the material in convenient "mouthfuls" which can be assimilated, and these mouthfuls must be in soup-to-nuts order, not scrambled. This objective is accomplished by the outline. But just to outline the material before writing is not enough. The outline must be made apparent, even at the risk of being obtrusive, in the written report, so that each part of the report as organized makes its own distinct impression on the reader. This second objective is accomplished by various techniques, among them being the topic sentence, introduction, summary, and connective.

The Outline: Blue Print for Logical Presentation

I have heard many would-be writers remark, "Oh, I don't bother to make an outline, I just sit down and write." But these writers are missing one of the most effective aids to clarity in their reports. A written plan of procedure is as essential to good report writing as a blueprint to a building contractor. It effects proper grouping of ideas, without which clarity is impossible. As mentioned above, ideas must be grouped and arranged to form definite mouthfuls which the reader can assimilate as such. So first the writer must organize his own thought units into digestible groups. Every writer makes some effort toward this organization but often the plan is either rough and incomplete or not written at all. The resulting report is then almost inevitably a

[1] For a good discussion on rhetorical structure of reports, see "Accountants and Utilitarian Writing," by J. M. Clapp, *The Journal of Accountancy*, May 1946.

mass of unrelated thought units which the reader must struggle to organize for himself.

There are other benefits beside clarity which a written outline achieves for the writer. These are coverage, logic, and emphasis. The bird's-eye view provided by the outline insures coverage of all aspects of the subject and the elimination of irrelevant matter. Logic is important in an analytical report and the outline or brief can operate as a check on the order of presentation and the soundness of the conclusion reached. Finally, the over-all survey of the material makes it possible for the writer to place emphasis properly, for it highlights the points which are most important.

Not all reports need to be outlined in complete detail. Some periodic or progress reports may have a set form—the outlining has already been done. Short reports, of course, require less detailed planning. But the important point is that any written report must be planned in advance, and that plan must be reduced to writing to be of full value to the author.

The procedure of outlining is essentially an exercise in logic, a subject far beyond the scope of this article. However, a few basic principles in organizing the outline might be reviewed, keeping the aspect of logic in mind. As a first step, the subject or problem must be clearly defined. This definition must be kept constantly in mind until the report is finished. After the necessary material has been gathered, the next step should be to make a list of the thought units, which it is felt should be included in the report. This data requires further study to determine the main groups or factors which must in turn be broken down into component subgroups. Finally, the main and subgroups should be arranged and rearranged into the best order for a logical presentation.

The proper grouping of material offers the most pitfalls for the inexperienced writer. Two tests should be applied to each main and subgroup established. First, each should have a common subject matter. Second, each main group should be directly related to the main subject and each subgroup to the main group of which it is a part. In analytical reports, where a definite conclusion must be reached, one common fault is to combine all material into two groups, one "pro" and the other "con." This method of organization fails to present a clear picture whenever there are several factors involved, because grouping into only two divisions makes each division too broad in subject matter to be grasped as a whole

by the reader. Planned organization is needed so that thoughts can be presented in capsule form for easy consumption by the reader.

Briefing is strongly recommended for all reports where logic is important. Because of its emphasis on logic, the brief is most useful for analytical reports which formulate a definite conclusion. For descriptive or expository reports, an outline is usually sufficient.

A brief is an outline with each major and minor division written in complete sentence form. Connectives such as "because," "and," and "although" are used to show the relationship within each division and between divisions. By the translation of thoughts into complete sentences and by the use of connectives, the brief tests each division to see that it is directly related either to the main subject or to the group of which it is a part. It is also a means of testing the accuracy of the grouping (as to subject matter) and the logic of the report's conclusion.

An Example of Preliminary Organization

To illustrate the procedure of outlining let us follow the steps in organization of material for an analytical report. Assume that you have been asked by your superior to report on the subject: "Should the X Company institute a standard cost system for direct labor and material? First note the subject. Get it clearly in mind so that you will have complete coverage and at the same time not ramble too far afield. After the necessary investigation, you develop the points for consideration in the report. It will be noted that they are, at this point, divided into "pro" and "con," for this is a good initial approach, even if not adequate for the final presentation.

Pro

Standard costs:

1. Offer definite measures by which management can control production costs.
2. Facilitate budgeting and financial planning.
3. Reduce clerical work in bookkeeping.
4. Facilitate product pricing.
5. Speed up the monthly closing and preparation of operating reports.
6. Reduce fluctuations in the inventory accounts.

7. Provide standards which can be used for better production scheduling.
8. Have been successfully installed in other companies with an equally diversified line of products.

Con

9. Cost control now possible by comparison of costs with past periods may be adequate.
10. The wide range of operations and products of X Company will complicate analysis of variances from standard.
11. A substantial outlay will be required to establish standards.
12. There will be further expense required to keep the standards current, particularly in these times.

For proper organization, material for the report should first be put down in a rough list of points such as that given above. The idea should be to list all factors or considerations which you wish to include in the presentation. Sometimes considerable research is first necessary to develop the material to be presented. After the material has been gathered, a listing of the principal points represents the first step toward control of the subject matter.

However, such a listing is obviously not organized for presentation. It is next necessary to establish the main divisions of the report. This is done by grouping all points with similar subject matter. A selection of five main groups has been made below, applicable to the example being considered. The numbers in parentheses refer to the above list of points. It will be noted that the embryo organization now becomes topical and "pros" and "cons" are listed, in their relationship to each topic:

I. Control of production costs. (1,9,5)
II. Effect on accounting operations of an installation of standard costs. (3,4,5,10,12)
III. Cost of establishment and maintenance of standards. (11, 12,3)
IV. Effect on other departments. (2,7)
V. Adaptability of X Company operations to a standard cost system. (8,10)

A second test must also be applied to each main division. It must be demonstrated that each division relates directly to the

main subject, that is, that it has direct effect on the main conclusion reached. Application of this test is best done by a statement cast in the form of a brief, as follows:

The X Company should (should not) adopt a standard cost system because:

I. Management would (would not) be able to control production costs more closely.
II. Accounting operations would (would not) be facilitated.
III. Cost of establishment and maintenance would be relatively inexpensive (expensive).
IV. Other departments would (would not) be benefited.
V. The company's operations are (are not) adaptable to a standard cost system.

More Detailed Briefing

The material within each factor is then developed in detail and arranged in proper order through a more detailed outline or brief. The same tests of similar subject and direct relation to its division must be applied to each subgroup. Since the subject in this example is a controversial one and the report must come to a logical conclusion, it is well suited for organization by briefing. Such further briefing, with respect to factors I and II above, might be set up in the following manner:

The X Company should adopt a standard cost system because:

I. Management would be able to control production costs more closely because
   A. Definite standards would be established to measure
      1. Direct labor costs and
      2. Material usage.
   B. Controlling direct labor and material would effect control of 75 per cent of production costs.
   C. Although some cost control is possible now by comparison with past periods,
   D. The present system is not an adequate control because
      1. Prior periods are seldom a true standard and
      2. Few job orders are on a truly comparative basis.
   E. More prompt receipt of operating reports from accounting will also aid control.
II. Accounting operations would be facilitated because
   A. Actual bookkeeping work would be reduced for

1. Posting on stock ledger cards and
2. Pricing of material requisitions,
3. Although these savings would be offset if standards were changed too frequently.

B. Monthly closing and all operating reports would be speeded up.

C. Analysis and checking of costs will be easier because
   1. The standards will furnish a uniform basis of measurement,
   2. Although analysis of variances may be complex because of
      a. Great variety of operations and
      b. Great variety of products.

D. Product pricing will be easier with use of standard costs.

Some of the advantages of briefing report material can be observed from the above presentation. Note how the use of sentences forces the writer to think out each phase of the subject. The vague caption form used in an ordinary outline is often not translated into clear-cut expression in the report. The connective words of the brief also force a logical order and relationship between groups. Each statement has a direct relation either to the subject or to the heading under which it is placed.

In summary, a written plan for a report should always be made. Such a written plan is necessary most of all because it groups scattered thoughts into units which the writer can handle with clarity and thereby make it possible for the reader to assimilate. Other benefits are the achievement of coverage, logic, and emphasis. Grouping of main units and subunits must be done with care and tested as to subject matter and as to direct relation to the main subject or division of which they are a part. Briefing provides a check on the logic of the report organization and conclusion.

Following the Outline

After the report material has been organized into main thought groups and subgroups by outline or brief, there still remains the job of putting it into written report form. To a gifted few writing comes with ease, while the rest of us struggle and strain for the proper words. But regardless of how we write, one principle must be kept in mind above all. That principle is to carry the outline into the report so clearly that the reader can follow each step.

To enable the reader to follow the organization, two points must be kept in mind. First, the reader should be able to distinguish just what the divisions of the report are. (Remember that a reader can grasp only one major division at a time.) The second important point is that the reader must be made to see how each part of the report is related to the whole, that is, how each subgroup contributes to its main thought group and how each main group is related to the report's subject or conclusion. The reader should never be able to say, at any part of the report, "That's interesting but—so what?"

Effective use of certain techniques will greatly assist the reader in following the report organization which has been developed. These techniques are:

1. The topic sentence
2. Introductory construction
3. Summary construction
4. Connective or "relating" construction

The topic sentence is one of the most important elements in clear writing. It is defined as that sentence of a paragraph which expresses the main thought of the entire paragraph. Good writing demands that each paragraph cover only a single thought or subject. A paragraph for which no topic sentence can be expressed is one which cannot be grasped as a whole by the reader because of its vagueness or diversity of thought. If we make an effort to state a topic sentence in each paragraph, we force ourselves into paragraphing with unity and clearness. In addition, the topic sentence is a means of emphasizing the specific thought represented by each paragraph.

Position of the topic sentence within each paragraph is often important. In business reports it should be placed as the first sentence wherever possible. In this position it guides the writer in paragraph unity and provides most clarity for the reader. As a first sentence it also permits busy readers to skim a report by topic sentences, reading in detail only where necessary. A second topic sentence at the end of a long paragraph is often necessary to clinch the thought again in the reader's mind.

But clear topic sentences and good paragraphing are not alone sufficient to show the reader the major thought groups and the interrelation of all parts of the report. We must use additional words, sentences, and paragraphs which are inserted solely to clarify the organization of the report. These insertions can intro-

duce, summarize, or connect. They are necessary in all reports, first, to point out the main divisions, second, to show the significance of such divisions, and third, to show where each division fits into the whole.

The chief function of introductions and summaries is to point out the divisions of the report and thereby fix them more clearly in the reader's mind. The advice of the old country minister is still good: "I tell 'em what I'm going to say, then I say it, then I tell 'em what I've said." At times this procedure may seem to detract from conciseness, but the clarity achieved is worth it. Introductions and summaries should be used not only at the beginning and end of a report but for main divisions within the report whenever necessary.

Connectives Play Essential Part

Connectives are most valuable in showing the relationship of each part of the report to the other parts and to the report as a whole. These phrases, sentences, or paragraphs should do more than join, they should also relate. In this function they clarify for the reader the significance of each thought group in the report. Too many reports represent only a collection of flat statements for which no relationship among thoughts is shown. The reader cannot follow any organization in such reports. He is consequently surprised and unconvinced by any conclusion which the writer appears to reach. In topic sentences, the use of construction showing connection or relationship is very important because, of course, these sentences represent the keystones of a good report.

Words used as connectives are familiar to everyone. Representatives are: "but," "however," "therefore," "first," "second," and others. They should be used wherever they will give added meaning to the sentence. However, phrases and sentences which connect are most neglected by writers and yet they also are very important for clarity. For example:

"In addition to . . ."

"A second factor which would ease the clerical load is . . ."

"Although the cost comparison has been proved favorable, there still remains . . ."

"Even if this market analysis proved favorable, another problem will be . . ."

"Consideration has been given so far only to product costs and product quality in connection with the proposed plant ex-

pansion. A third and very important question must also be weighed, and that is . . ."

Note that each of these connectives ties in its sentence or paragraph with the previous portion of the report. That is the important function of connectives—to tie in each thought with its related main division and to tie in each division with the subject. The reader is never given a chance to say, "So what?"

A typical report which did not make proper use of connectives might read as follows:

> "This standard cost system would provide management with definite measures for the efficiency of direct labor and utilization of material. These measures could be used for all types of work at any time, regardless of whether the job represented a new type of work or a standard product. Direct labor and material represent 75 per cent of our total cost of production. The present cost system provides control through comparison with operations of past periods. Past operations seldom reflect the same conditions which are in effect during the period under consideration. Minor variations in our product are frequent and few jobs are exact duplicates. Comparisons with prior results often cannot be made because the product has undergone some variation or it is a new product. Management now has no effective way to measure labor or material costs except by informal direct observation. Operating results would be provided more quickly. Remedial action by management can be much more effective."

The above paragraph is not impossible to understand, but it lacks "punch" which is to say it lacks force and unity—to use the language of grammarians. The reader can get no definite thought from it because the passage has two weaknesses. One is the absence of connectives, so that it appears to be a recitation of facts unrelated to each other or to the subject. The second weakness is that it is poorly paragraphed and there is no topic sentence. The subject matter can be broken down into more than one paragraph and a topic sentence for each would serve to emphasize the thoughts presented. The same material has been rewritten below, with topic sentences in small capitals and connective wording in italics:

The first and most important advantage of the standard cost system is that IT WOULD PROVIDE MANAGEMENT WITH A CLOSE CONTROL OVER ALL DIRECT LABOR AND MATERIAL COSTS. The standard costs proposed would provide definite measures with which to gauge the efficiency of direct labor and material utilization. This control would be effective regardless of whether the job represented a new type of work or a standard product. *Close control over direct labor and material is important because* these costs represent 75 per cent of our total cost of production.

On the other hand, CONTROL BY OUR PRESENT COST SYSTEM IS NEITHER ACCURATE NOR ADEQUATE. The present cost system provides control only through comparison with operations of past periods. *It is not accurate because* past operations seldom reflect the same conditions which are in effect during the period under consideration. *It is not adequate because* minor variations in our product are frequent and few jobs are exact duplicates, *which means* that comparison with previous results often cannot be made because the product has undergone some variation or it is a new product. *As a result,* management now has no effective way to measure labor or material costs except by informal direct observation.

Another way in which THIS STANDARD COST SYSTEM WOULD AID CONTROL would be THROUGH PROVIDING OPERATING REPORTS MORE QUICKLY. *If results are known soon after the operations take place,* remedial action by management can be much more effective.

Observe how the connective phrases have given added meaning to some of the sentences. These connectives have shown the relationship between thoughts so that the reader can now see the significance of the statements made. It should be noted that the first connective has related the three paragraphs to the main subject. The separation into three paragraphs with a beginning topic sentence for each has also made the thought more clear.

A Few Rules Which Will Help

Before concluding, a few suggestions on other phases of report writing should be offered. In the translation of thoughts into writing, common errors are made by many of us which result in loss of

clarity for the report.[1] The rules stated briefly below will help achieve simplicity and clearness in the writing operation.

1. Never forget the reader. Not only should the report be organized for his easy comprehension, but the material presented should be adapted to his specific knowledge and attitudes.
2. Avoid long and involved sentences. Do not hesitate to write an extra sentence if it will add to clarity.
3. Avoid archaic and overtechnical words. Use words which are familiar but vary them to avoid monotony.
4. Endeavor to use more nouns and verbs and fewer adjectives, to achieve directness. Scrutinize the adjectives in your report and you will find many are vague and unnecessary.
5. Be complete. Conciseness is wonderful, but when in doubt, include, do not exclude. For example, in a recommendation report, note the unfavorable factors as well as the favorable ones.
6. Do not let statistical exhibits dangle without a reference to them in the report. However, it is unnecessary to describe all details of the exhibit in the text.

Accomplishing the Major Objective

This article has been devoted chiefly to report organization because it is too often neglected, both by experienced and by inexperienced writers. In order to organize a report, the writer must first organize his own thoughts in outline form. In many cases, this means briefing in order to do a proper job. The outline must then be shown clearly in the report so that the reader can absorb the material step by step. To carry out the outline into report form, we should make good use of topic sentences, introductions, summaries, and connectives. These techniques help to point out the main divisions and to remind the reader where each division fits into the whole report. If this much is perceived by the reader, then a big step has been taken toward the major objective of every report—to be understood.

[1] Mr. J. M. Clapp has developed a method for objective measurement of writing which is worth consideration. His tests measure average length of clauses, sentences, and paragraphs, and also the types of words used. Such an analysis can show the writer where improvement is needed in the structure of the report itself. *Ibid. Accountants' Writing* (Ronald Press, 1948) pp. 10-25.

SPEEDING UP MONTHLY CLOSINGS AND REPORTS TO MANAGEMENT — IT CAN BE DONE

by RAYMOND R. WESLEY,
Chief Accountant, Ciba Pharmaceutical Products, Inc.
Summit, N. J.

SOME years back we closed our books quarterly and took six weeks to come up with financial statements and cost reports. In between quarters we made up monthly "estimates." Six years ago we introduced standard costs and, since then, complete monthly closings and monthly statements have been our established practice. As a result, up to two years ago we thought that we were doing pretty well in providing company officials with the numerous reports vital to intelligent management within a planned schedule of fifteen working days after the close of a month. In relation to previous performance, we thought that this was a considerable achievement—especially since we had also greatly improved the scope and usefulness of the reports provided.

When everything went along all right our principal financial statements might be ready for the board of directors and top management as early as the fifteenth of the month. If business was especially heavy, or a couple of key accounting employees were on vacation, the statements would be delayed until the eighteenth or twentieth. Moreover, budget statements were seldom in the hands of the department heads until a full subsequent month had passed.

Nevertheless, we thought we had done well because, over the course of several years, we had developed a modern mechanized and, we believed, efficient cost and general accounting system. The truth is, as we now know, we had only begun building one of the most important, if not *the* most important feature of any accounting system. Accounting reports, to be of value to management, must be produced with speed.

Marching Orders, Doubt, and Resolution

Management had found our improved system of reports increasingly useful. As a result of this growing interest in the contents of our reports, there was a mounting pressure from management as a whole for an earlier presentation of the monthly "continued story" of company progress. We had already traveled a long way in perfecting the adequate analysis of company transactions

through modern methods but, to earn full credit for technical accounting accomplishments, we still had a "last mile" to cover—the reduction of compilation time. We finally put our shoulders to the wheel and got moving after the controller announced that our income statement and balance sheet were to be on his desk no later than the eighth working day after the close of a month. There was the further stipulation that other report dates were to be proportionately advanced to what we thought at the time were "impossible" dates. At first, all the accounting staff could see was the apparently unattainable objective to issue many reports in half the time customarily required. The immediate reaction among many of the accounting executives was the natural "It can't be done!"

Then the discussions started. At the beginning the talk was not entirely objective. There were the "diehards" who merely shrugged and said that we might cut a day or two from present schedules.

And there were the dodge devisers with the suggestion that all activities be cut off on the twentieth of the month so that statements could be issued twenty days after the date but on the tenth of the following month. But the more serious and open-minded of the accounting staff asked themselves the simple question "Just why can't we get our reports out on time to be of real benefit to management? Many other firms do it!"

The Search for Sources of Delay

An extensive investigation was planned to unearth the obstacles that were holding up the prompt issue of monthly reports. We were rather surprised to find that there were few real "dragons" to kill—mostly only mousy details in our way. *Our trouble was largely a lack of fully integrated planning and organization in our report production.*

We looked first in the cost section (organized as a part of our financial control division). Delays arose there in securing operating information from the various manufacturing departments. These departments were in no hurry to complete and send to the cost section the month-end accumulation of final material withdrawal requisitions, completed production slips, and the various other pieces of information necessary for complete and accurate cost reports. Not being accounting minded, they were content to

let the accounting detail slide if there were other things to do. This common difficulty turned out to be the easiest to overcome.

Another source of delay in the cost section resulted from relatively small differences, such as (say) $2.62, in balancing up a section of the inventory totaling several hundred thousand dollars. It might take a week of diligent rechecking to discover the cause of this error, but the checking *seemed* to have to be done before the cost journals were ready for posting, even though the same inventory might (we will hope not) contain an as yet undetected physical difference of a thousand dollars due to evaporation, assimilation of moisture, or other idiosyncrasies of large chemical inventories. Now we post first and check and correct in a later month (we do *not* forget it). There was a similar situation with respect to payroll data. Our manufacturing payrolls are distributed through job time slips completed by the operators and controlled through the attendance time clock cards. At the end of a month there might be a difference of perhaps six hours between the hours distributed to manufacturing and the hours calculated by the payroll section. It would often take several days of checking to reconcile this difference. Our remedy here was to complete the checking currently each day.

Another discovery made while rooting out the causes for accounting report delays was that no effort was being made to set up the journals and work sheets for repetitive entries, during the slack times in the middle of a month. In many companies entries of this type will account for as many as 95 per cent of all journals and work sheets.

General Accounting Department

In moving our investigation to the general accounting department, we found the major source of delay was in closing accounts payable. Here again we were being very precise in making sure that each $2 invoice was recorded in accounts payable and properly charged to the correct month. We were allowing our accounts payable to remain open long past a cutoff time which would be sufficient for substantially accurate monthly statements. The last week during which the accounts were held open would generally bring in only a few hundred dollars of minor items to be added to payables. In general accounting we again found there was a considerable lack of forehandedness in preparation of work sheets and journals. It was also found that records, such as the sales book,

were not being balanced currently but that the balancing was allowed to slide until the end of a month. Then, if somehow an error had crept into the record (and we all know this does happen), hours or days of checking were necessary before closing.

On an over-all outlook, the relative unimportance of petty accuracy and the considerable damage of lack of current balancing and form preparations became pretty obvious. While all this detail was being checked and adjusted, top management would be fretfully wondering what happened last month. They would have been perfectly content to know the operating results within a few hundred dollars but, in our effort to be traditionally penny accurate, we had insisted that all the records be meticulously precise before our reports were issued. Taken as a whole, our comprehensive investigation into the reasons why the previous fifteen-day report schedule was difficult to beat was perheaps the most enlightening and worth-while project we had undertaken.

Cooperative Action

After learning what bottlenecks were delaying our statements, the next step naturally was to organize our attack on the various problems that had presented themselves. A meeting was called of all financial control section heads. Each source of delay was discussed openly and frankly and means for overcoming each obstacle was mutually decided upon.

The manufacturing department's division supervisors were each approached individually and our objective—final financial reports by the eighth working day—was explained to them. The part that they were to play by furnishing closing information on schedule was described and they were told—and this proved persuasive—that their department budget results would get into their hands in nearly half the time formerly required. Being a budget-minded, if not strictly accounting-minded, group, their cooperation was offered generously and, on occasion, they promised performance exceeding our initial proposals. It was encouraging to realize that the cost section's motto of "service for manufacturing," hitherto adopted and implemented, was paying off now.

For emergency use we had a "clincher" in reserve. We went to the vice president in charge of production. We said, "Management wants financial statements on the eighth working day following the close of a month. To do this we need the following information on these dates." This resulted in a letter written by the

cost accountant and signed by this officer, which goes out to each foreman every month giving the exact day and hour to submit specified information. There are now no "put-offs."

Differences, Prepared Entries, Payables, and Prebalancing

As to the small differences, which haunt every cost section at the monthly closing, we decided that if they had no material effect on the figures they could be disregarded for the moment. There has been no disrespect for accuracy, however, since these small differences are still hunted down later until records that should balance do balance. Our internal auditor sees that there is no slackening in the review of such matters. Minor errors in inventories and the like are reconciled after closing when the time is available and they are not allowed to interfere with the production of our statements when they are too small to have even a slight effect on the over-all statement figures.

Labor hours shown on the labor slips are still balanced with the time clock card controls. But, as indicated before, instead of waiting until the end of the month we found it expedient to have the timekeepers institute a daily balance. Each day, now, as part of their regular routine, they pick up each manufacturing department's clock cards and labor slips and reconcile the total time for the previous day. This daily check has not required any additional timekeepers.

Then came the problem of setting up work sheets and journals in advance of closing. Each employee responsible for preparing journal summaries and other work sheets was instructed in setting up these forms in advance. There have been no delays lately because of employees taking valuable time at the month end to make preparations which could have been done two weeks before. A study of our journal entries confirmed our estimate that 95 per cent of them were recurring from month to month. Nevertheless, the previous practice had been to type them out each month, page after page. A system was devised for prenumbering routine journals with only the month added later to identify the entry. Then, by using our duplicating machine, we reproduced practically all of our journals for the rest of the year.

After surveying the accounts payable it was decided to make the cutoff at the end of a month instead of ten days later. The invoice register is now examined and the more important items are accrued right up until the time for taking the trial balance. The amount by

which we miss the proper month's expense through our hurry-up closing doesn't amount to two per cent, plus or minus, of a month's total expenses. This, we found, is close enough to maintain the reliability of the reports for management purposes.

Then came the installation of prebalanced records. The sales book, for example, is now footed and balanced on the twenty-fifth of the month. Our machine tabulating section compiles the details of their thousands of sales cards which have to balance with the accounting controls. If the details balance, fine, but if they do not then there is a search for the difference. But this is still five days before the month end, plenty of time to make the reconciliation before closing. The details from the twenty-sixth to the month end are then tabulated as soon as possible and in turn balanced with the control. It has been proven that this last group, representing only twenty per cent of a month's work, presents no serious problem in reconciling.

Branch Accounts

We tried to gain an advantage over the calendar by having our west coast branch consider the twenty-fifth the end of their month so that the branch reports would reach us in plenty of time for the general statements. When top management heard of this, it was strongly suggested to us that a calendar month should be a calendar month in California as well as in New Jersey. In other words, no tampering with the calendar. This meant that our west coast branch had to deliver their end-of-month reports to an airline almost at taking-off time for the east in order to meet the schedule we had established. An airline was glad to cooperate.

Applying Tabulation to General and Subledgers

After making the changes as related we worked harder than we ever had to get our first monthly financial statements in the hands of management on the eighth working day. To our happy surprise, with an assist by plenty of overtime, we did it. This was a boost to our morale. It could be done. But management objected to the overtime expense. This attempt showed another major kink in our system which needed straightening. The principal obstacle to the accelerated closing had been caused by the multitude of entries to the subledgers and general ledger and the hand-taken trial balance which has to balance but seldom does the first time. We were using tabulating machines for our payrolls, inventories, sales, costs,

and indeed for every conceivable job having sufficient volume requiring quick calculation or speedy summarization. Could the conventional subledgers and general ledger be so adapted?

Our machine tabulating supervisor came up with a simple and well-established (in the operations of other companies) system of expense distribution via tabulating cards which was tried concurrently with our conventional hand-operated system for several months before we felt safe in abandoning the old-fashioned way. Tabulated subledgers and general summaries have worked better than our most optimistic expectations and are one of the most important steps we took in speeding up our reports to management.

Nothing Succeeds Like Success

Did I say eighth working day for the primary financial statement? When a meeting of the board was unexpectedly scheduled early one month, we were asked to have the statements ready by the afternoon of the sixth working day. No one even suggested it couldn't be done and we proceeded to make the five and a half day deadline with relative ease. In rechecking each step of this accomplishment, we found we could get the statements out on the sixth or seventh working day quite consistently and our detailed schedules have been revised accordingly. The seventh working day schedule for the preparation of the income statement and the balance sheet has now been maintained for three months. Now that we are used to it, there is no strain experienced in meeting our schedule and a surprisingly small amount of overtime is required.

The Technique: Organized Application of Established Methods

Men who run a big business frequently feel they do not get a fair return from their investment in the accounting department. Could one of the reasons for this attitude be the reluctance of many accountants to dig into the mechanics and organization of office production so as to really serve the best interest of management with timely reports?

There is no easy "cure-all" that will speed up the office—just the detailed and organized application of established methods and machines to overcome the myriad little bottlenecks that are always with us if there is only haphazard attention to office production problems. The interests of management can best be served and fullest recognition for the accountant obtained by getting those reports out today, not "mañana." We found out, "It can be done."

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, AND JULY 2, 1946

of N. A. C. A. Bulletin, published semimonthly at New York, N. Y., for Oct 1, 1948, State of New York, County of New York, ss.

Before me, a Notary Public in and for the State and county aforesaid, personally appeared R. P. Marple, who, having been duly sworn according to law, deposes and says that he is the Business Manager of the N. A. C. A. Bulletin and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily, weekly, semiweekly or triweekly newspaper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the act of August 24, 1912, as amended by the acts of March 3, 1933, and July 2, 1946 (section 537, Postal Laws and Regulations), printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, National Association of Cost Accountants, 385 Madison Ave., New York 17, N. Y. Editor, George F. Wyman, 385 Madison Ave., New York 17, N. Y. Managing editor, none. Business manager, R. P. Marple, 385 Madison Ave., New York 17, N. Y.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member must be given.) National Association of Cost Accountants, 385 Madison Ave., New York 17, N. Y. President, Clinton W. Bennett, Cooley & Marvin, 140 Federal St., Boston 10, Mass. Secretary, Arthur B. Gunnarson, 385 Madison Ave., New York 17, N. Y. Treasurer, Philip J. Warner, The Ronald Press Co., 15 E. 26th St., New York 10, N. Y.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the twelve months preceding the date shown above is..... (This information is required from daily, weekly, semiweekly and triweekly newspapers only.)

R. P. MARPLE
Business Manager.

Sworn to and subscribed before me this 30th day of September, 1948.
(Seal)

IRVING I. STEINHOLTZ,
Notary Public, New York County,
N. Y. Co. Clk's No. 774, Reg. No. 939-S-6.
Commission Expires March 30, 1950.